

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SK/FI992133	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/FI00/00843	International filing date (<i>day/month/year</i>) 02.10.2000	Priority date (<i>day/month/year</i>) 04.10.1999	
International Patent Classification (IPC) or national classification and IPC D 21 F 1/02			
Applicant METSO PAPER INC. et al			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21.02.2001	Date of completion of this report 07.01.2002
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Olov Jensen/ELY Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00843

I. Basis of the report**1. With regard to the elements of the international application:***☒ the international application as originally filed☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement) under article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:**☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.**4. ☐ The amendments have resulted in the cancellation of:**☐ the description, pages _____☐ the claims, Nos. _____☐ the drawings, sheet/fig _____**5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).****

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00843

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-10</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-10</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims	_____	NO

2. Citations and explanations (Rule 70.7)

Document cited in the International Search Report:

1. US 5183537 A

The cited document represents the general state of the art.

The invention defined in claims 1 - 10 is not disclosed by this document.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed procedure and means for generating turbulence in stock suspension flow. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1 - 10 is novel and is considered to involve an inventive step. The invention is industrially applicable.

**NATIONAL BOARD OF PATENTS
AND REGISTRATION**
Patent and Innovation Line**SEARCH REPORT**

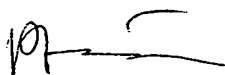
PATENT APPLICATION NO.	CLASSIFICATION
19992133	D 21 F 1/02

EXAMINED MATERIAL
Collection of patent publications (FI, SE, NO, DK, DE, CH, EP, WO, GB, US), examined classes D 21 F 1/02, 1/06
Data retrievals and other material

DOCUMENTS CITED		
Category^{*)}	Document identification details	Relevant to claims
X	FI-C-84921	
X	US-C-4125429	
X	US-C-4543162	
*) X Document of relevance with respect to patentability when taken alone Y Document of relevance with respect to patentability when this and one or more documents falling into the same category are taken into consideration A Document representing the general state of the art, however not a bar to patentability		
Date 11.3.2000	Examiner Pirjo Iainne	

HAKEMUSNUMERO	LUOKITUS
19992133	DSIF1/05
<input type="checkbox"/> jatkuu kääntöpuolella	

TUTKITTU AINEISTO
Patenttivirastojen julkaisut FI, SE, NO, DK, DE, CH, EP, WO, GB, US:
DSIF1/05, 1/06
<input type="checkbox"/> jatkuu kääntöpuolella
Muu aineisto
<input type="checkbox"/> jatkuu kääntöpuolella

VIITEJULKAISUT		
Kategoria*)	Julkaisun tunnistetiedot	Koskee vaatimuksia
X	FI-C-84921	
X	US-C-4135429	
X	US-C-4543162	
<input type="checkbox"/> jatkuu kääntöpuolella		
*) X Patentoitavuuden kannalta merkittävä julkaisu yksinään tarkasteltuna Y Patentoitavuuden kannalta merkittävä julkaisu, kun otetaan huomioon tämä ja yksi tai useampi samaan kategoriaan kuuluva julkaisu A Yleistä tekniikan tasoa edustava julkaisu, ei kuitenkaan patentoitavuuden este		
Päiväys	Tutkija	
11.3.2000		

P A T E N T COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

FORSSÉN & SALOMAA OY
Yrjönkatu 30
FIN-00100 Helsinki
FINLANDE

Date of mailing (day/month/year) 27 March 2001 (27.03.01)	
Applicant's or agent's file reference SK/FI992133	IMPORTANT NOTIFICATION
International application No. PCT/FI00/00843	International filing date (day/month/year) 02 October 2000 (02.10.00)

1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative		
Name and Address VALMET CORPORATION Fabianinkatu 9 A FIN-00130 Helsinki Finland	State of Nationality FI	State of Residence FI
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input type="checkbox"/> the person <input checked="" type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence		
Name and Address METSO PAPER, INC. Fabianinkatu 9 A FIN-00130 Helsinki Finland	State of Nationality FI	State of Residence FI
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to: <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the International Searching Authority <input checked="" type="checkbox"/> the International Preliminary Examining Authority </div> <div> <input type="checkbox"/> the designated Offices concerned <input checked="" type="checkbox"/> the elected Offices concerned <input type="checkbox"/> other: </div> </div>		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Athina Nickitas-Etienne Telephone No.: (41-22) 338.83.38
--	--

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

FORSSÉN & SALOMAA OY
Eerikinkatu 2
FIN-00100 Helsinki
FINLANDE

Date of mailing (day/month/year) 01 February 2002 (01.02.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference SK/FI992133	
International application No. PCT/FI00/00843	International filing date (day/month/year) 02 October 2000 (02.10.00)

1. The following indications appeared on record concerning:		
<input type="checkbox"/> the applicant	<input type="checkbox"/> the inventor	<input checked="" type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address FORSSÉN & SALOMAA OY Yrjönkatu 30 FIN-00100 Helsinki Finland	State of Nationality	State of Residence
	Telephone No. +358 9 615 3500	
	Facsimile No. +358 9 615 35111	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input type="checkbox"/> the address
<input type="checkbox"/> the nationality	<input type="checkbox"/> the residence	
Name and Address FORSSÉN & SALOMAA OY Eerikinkatu 2 FIN-00100 Helsinki Finland	State of Nationality	State of Residence
	Telephone No. +358 9 615 3500	
	Facsimile No. +358 9 615 35111	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer</p> <p>Annick TOUSSAINT</p> <p>Telephone No.: (41-22) 338.83.38</p>
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PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing: <div style="text-align: center;">12 April 2001 (12.04.01)</div>	
International application No.: <div style="text-align: center;">PCT/FI00/00843</div>	Applicant's or agent's file reference: <div style="text-align: center;">SK/FI992133</div>
International filing date: <div style="text-align: center;">02 October 2000 (02.10.00)</div>	Priority date: <div style="text-align: center;">04 October 1999 (04.10.99)</div>
Applicant: <div style="text-align: center;">SOINI, Sakari</div>	

1. The designated Office is hereby notified of its election made:

☒

in the demand filed with the International preliminary Examining Authority on:

21 February 2001 (21.02.01)

☐

in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p style="text-align: center;">J. Zahra</p> <p>Telephone No.: (41-22) 338.83.38</p>
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00843

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: D21F 1/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: D21F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5183537 A (RICHARD E. HERGERT ET AL), 2 February 1993 (02.02.93) ----- -----	1,5

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

19 January 2001

Date of mailing of the international search report

23 -01- 2001

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Olov Jensén/ELY

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

Information on patent family members

27/12/00

International application No.

PCT/FI 00/00843

Patent document cited in search report			Publication date	Patent family member(s)	Publication date
US	5183537	A	02/02/93	AU 657368 B	09/03/95
				AU 2751892 A	03/05/93
				BR 9206595 A	07/03/95
				CA 2120738 A,C	15/04/93
				DE 607249 T	16/03/95
				DE 69217237 D,T	25/09/97
				EP 0607249 A,B	27/07/94
				SE 0607249 T3	
				FI 941560 A	06/04/94
				JP 2794057 B	03/09/98
				JP 6506274 T	14/07/94
				KR 186065 B	15/05/99
				NO 306868 B	03/01/00
				NO 941243 A	06/04/94
				PL 170262 B	29/11/96
				WO 9307335 A	15/04/93

REC'D 23 JAN 2002

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12

Applicant's or agent's file reference SK/FI992133	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FI00/00843	International filing date (day/month/year) 02.10.2000	Priority date (day/month/year) 04.10.1999
International Patent Classification (IPC) or national classification and IPC ₇ D 21 F 1/02		
Applicant METSO PAPER INC. et al		

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☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

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3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 21.02.2001	Date of completion of this report 07.01.2002
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Olov Jensen/ELY Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00843

I. Basis of the report

1. With regard to the **elements** of the international application:*☒ the international application as originally filed☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement) under article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages _____☐ the claims, Nos. _____☐ the drawings, sheet/fig _____5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00843

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-10</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-10</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-10</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document cited in the International Search Report:

1. US 5183537 A

The cited document represents the general state of the art.

The invention defined in claims 1 - 10 is not disclosed by this document.

The cited prior art does not give any indication that would lead a person skilled in the art to the claimed procedure and means for generating turbulence in stock suspension flow. Therefore, the claimed invention is not obvious to a person skilled in the art.

Accordingly, the invention defined in claims 1 - 10 is novel and is considered to involve an inventive step. The invention is industrially applicable.